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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,522	03/29/2001	William Robert Hanson	35451/120 (3600.Palm)	6082
26371	7590	07/11/2006	EXAMINER	
FOLEY & LARDNER LLP 777 EAST WISCONSIN AVENUE MILWAUKEE, WI 53202-5306			VU, TRISHA U	
			ART UNIT	PAPER NUMBER
			2112	

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,522

Applicant(s)

HANSON ET AL.

Examiner

Trisha Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-25 and 27-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-25 and 27-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03-29-01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1, 2, 4-25, 27-69 are presented for examination.
2. Claims 3 and 26 were canceled by Applicant.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 24-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter “*the expansion slot and the slot in the housing both being sized to accept and electronically couple with SD cards*” which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding Applicant’s argument that “*SDIO module 130 is based on the Secure Digital (SD) memory card*” - paragraph [0017] (page 11 of the Remarks), it is noted that even though the SDIO module 130 is based on SD memory card, however nowhere in the Specification discloses the slot being sized to accept and electronically couple with SDIO module 130 *also accept and electronically couple with SD cards*. “*SDIO module based on the SD memory card*” does not necessary mean that the slot is also configured to accept SD cards.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 6-9, 11-12, 14-15, 18-20, 24-26, 29-32, 34-35, 37-38, 41-43, 47-49, 52-55, 57-58, 60, 63-65, and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al. (6,353,870) (hereinafter Mills) in view of "Socket to Support World's Smallest Plug-in Card for Mobile Connectivity" (SD Card Association – Press Room, June 26, 2000) (hereinafter SDA).

As to claim 1, Mills teaches an expansion device (expansion card 100 and associate circuitry) for a handheld computer (Figs. 7 and 9), comprising: a module having a module housing including a first interface configured to be coupled to the handheld computer in a slot in a housing of the handheld computer (PDA 200) (Fig. 7); an accessory device (memory 120 or I/O interconnect 140) coupled to the module; an expansion slot defined by a first portion of the module housing, the expansion slot having a second interface configured to selectively couple to one of a Secure Digital (SD) card and a multimedia card (MMC) (col. 5 lines 49-57), the first portion of the module housing configured to be located adjacent and parallel with a back side of the handheld computer so that the expansion slot is entirely external to the periphery of the handheld computer (note Figs. 7-8, col. 5 lines 3-27, and the Response to Arguments above). However, Mills does not explicitly disclose the module being SDIO module with SDIO interface to be coupled to the handheld computer. SDA teaches SDIO module with SDIO

interface to be coupled to the handheld computer (pages 1-2, and especially paragraph 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement SDIO module/SDIO interface as taught by SDA in the system of Mills to provide a compact product wherein the SDIO module will make it easy to add input/output capability such as Bluetooth wireless networking and Ethernet connectivity to future handheld computers, Internet appliances and other portable electronic devices (pages 1-2).

As to claims 24, Mills teaches a handheld computer (PDA 200 and associate circuitry) (Fig. 7) comprising: a housing; a slot in the housing, the slot including an electrical connector (Fig. 7); a module (expansion card 100) having a module housing including a first interface coupled to the slot in the housing and coupled to the electrical connector; (Fig. 7); an accessory device (memory 120 or I/O interconnect 140) coupled to the module; an expansion slot defined by a first portion of the module housing, coupled to the module, the first portion of the module housing located adjacent and parallel with a back side of the housing (Fig. 7 and col. 5 lines 3-27), the expansion slot having a second interface configured to selectively couple to one of a Secure Digital (SD) card and a multimedia card (MMC) (col. 5 lines 49-57. However, Mills does not explicitly disclose the module being SDIO module with SDIO interface to be coupled to the handheld computer, and the expansion slot and the slot in the housing both being sized to accept and electronically couple with SD cards. SDA teaches SDIO module with SDIO interface to be coupled to the handheld computer (pages 1-2, and especially paragraph 2) and the slot can accept and electronically couple with SDIO cards, SD cards and

MultiMedia cards (“Approximately the size of a postage stamp, SD I/O Cards will have the same dimensions as SD Memory Cards. The miniature plug-in cards will work in expansion slots that will also accept SD Memory Cards or MultiMediaCards...”, page 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the slot and SDIO module/SDIO interface as taught by SDA in the system of Mills to provide a compact product wherein the SDIO module will make it easy to add input/output capability such as Bluetooth wireless networking and Ethernet connectivity to future handheld computers, Internet appliances and other portable electronic devices (pages 1-2).

As to claim 47, Mills teaches an expansion device (expansion card 100 and associate circuitry) for a portable electronic device (Figs. 7 and 9), comprising: a module including an interface configured to be coupled to the electronic device (PDA 200) (Fig. 7); an accessory device (memory 120 or I/O interconnect 140) coupled to the module; and expansion slot coupled to the module, the expansion slot configured to selectively couple to one of a SD card and a multimedia card (MMC) (col. 5 lines 49-57), the expansion slot configured to be located entirely external to the periphery of the electronic device (note Figs. 7-8, col. 5 lines 3-27, and the Response to Arguments below).

However, Mills does not explicitly disclose the module being SDIO module with SDIO interface to be coupled to the electronic device. SDA teaches SDIO module with SDIO interface to be coupled to the electronic device (pages 1-2, and especially paragraph 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement SDIO module/SDIO interface as taught by SDA in the system of

Mills to provide a compact product wherein the SDIO module will make it easy to add input/output capability such as Bluetooth wireless networking and Ethernet connectivity to future handheld computers, Internet appliances and other portable electronic devices (pages 1-2).

As to claims 2, 25, and 48, Mills does not explicitly disclose the SDIO module includes SD memory. SDA further teaches SD memory card (pages 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include SD memory card as taught by SDA in the system of Mills to expand the function/flexibility of the system.

As to claim 49, Mills further teaches the interface is configured to be coupled to a slot in a housing of the portable electronic device (Fig. 7).

As to claims 6-7, 29-30, and 52-53, Mills further teaches the accessory device includes an audio player (MP3 player) (col. 7 line 65 to col. 8 line 14).

As to claims 8, 31, and 54, Mills further teaches the accessory device includes a voice recorder (store and playback digitally encoded media such as music, audio, or video) (col. 7 line 24 to col. 8 line 14).

As to claims 9, 15, 32, 38, 55 and 69, Mills does not explicitly disclose the accessory device includes a wireless Bluetooth transceiver. SDA further teaches SDIO module having add-in I/O capability such as Bluetooth wireless networking (page 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include Bluetooth wireless networking as taught by SDA in the system of Mills to provide connection to a wireless network

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As to claims 11-12, 34-35, and 57-58, Mills further teaches the accessory device includes a FM tuner (col. 8 lines 7-14).

As to claims 14, 37, and 60, Mills further teaches the accessory device includes a networking card (col. 5 lines 59-67 and claim 17).

As to claims 18, 41, and 63, Mills further teaches the expansion slot is configured to accept a MMC memory card (col. 5 lines 49-57).

As to claims 19-20, 42-43, and 64-65, Mills further teaches the slot accepting MMC memory card (col. 5 lines 49-57), however, Mills does not explicitly disclose both of a SD memory card and a MMC memory card may be used selectively and singularly in the expansion slot. SDA further teaches both of a SD memory card and a MMC memory card may be used selectively and singularly in a slot (pages 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include both of a SD memory card and a MMC memory card may be used selectively and singularly in a slot as taught by SDA in the system of Mills to expand the function/flexibility of the system.

5. Claims 4-5, 27-28, and 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al. (6,353,870) (hereinafter Mills) in view of "Socket to Support World's Smallest Plug-in Card for Mobile Connectivity" (SD Card Association – Press Room, June 26, 2000) (hereinafter SDA), and further in view of Petty (6,389,486).

As to claims 4-5, 27-28, and 50-51, the arguments above for claims 1, 24, and 47 apply. However, Mills and SDA do not explicitly disclose the accessory device includes

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a positioning system device. Petty teaches positioning system device (GPS cards) (col. 1, lines 43-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include GPS receiver as taught by Petty in the expansion module of Mills and SDA to provide the geographic location of the module.

6. Claims 10, 33 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al. (6,353,870) (hereinafter Mills) in view of "Socket to Support World's Smallest Plug-in Card for Mobile Connectivity" (SD Card Association – Press Room, June 26, 2000) (hereinafter SDA), and further in view of Jones (6,145,046).

As to claims 10, 33 and 56, the arguments above for claims 1, 24 and 47 apply. However, Mills and SDA do not explicitly disclose the accessory device includes a digital camera. Jones teaches digital camera using memory card (Fig. 1A and col. 3, lines 6-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement digital camera as taught by Jones in the system of Mills and SDA to provide picture capture function to the expansion module wherein the memory card in the expansion module can be used for frame storage.

7. Claims 13, 36 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al. (6,353,870) (hereinafter Mills) in view of "Socket to Support World's Smallest Plug-in Card for Mobile Connectivity" (SD Card Association – Press Room, June 26, 2000) (hereinafter SDA), and further in view of Nakashima (6,182,204).

As to claims 13, 36 and 59, the arguments above for claims 1, 24 and 47 apply.

However, Mills and SDA do not explicitly disclose the accessory device includes a television tuner. Nakashima teaches expansion card having television tuner (col. 1, lines 14-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include television tuner as disclosed by Nakashima in the expansion module of Mills and SDA for further receiving television broadcasts to the system.

8. Claims 16, 39 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al. (6,353,870) (hereinafter Mills) in view of “Socket to Support World’s Smallest Plug-in Card for Mobile Connectivity” (SD Card Association – Press Room, June 26, 2000) (hereinafter SDA), and further in view of Onari et al. (6,132,391) (hereinafter Onari).

As to claims 16, 39 and 61, the arguments above for claims 1, 24 and 47 apply.

However, Mills and SDA do not explicitly disclose the accessory device includes a pedometer. Onari teaches pedometer (Fig. 6 and col. 16 line 54 to col. 17 line 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include pedometer as taught by Onari in the system of Mills and SDA to provide the position information of the device.

9. Claims 17, 40 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al. (6,353,870) (hereinafter Mills) in view of “Socket to Support World’s Smallest Plug-

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in Card for Mobile Connectivity” (SD Card Association – Press Room, June 26, 2000) (hereinafter SDA), and further in view of Rajchel (6,272,575).

As to claims 17, 40 and 62, the arguments above for claims 1, 24, and 47 apply. However, Mills and SDA do not explicitly disclose the accessory device includes a cellular telephone transceiver. Rajchel discloses a card module to receive cellular telephone transceivers to be used with a handheld computer (col. 4, lines 25-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include cellular telephone transceiver as taught by Rajchel in the expansion module of Mills and SDA to quickly establish a national telecommunications network.

10. Claims 21-22, 44-45, and 66-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al. (6,353,870) (hereinafter Mills) in view of “Socket to Support World’s Smallest Plug-in Card for Mobile Connectivity” (SD Card Association – Press Room, June 26, 2000) (hereinafter SDA), and further in view of Miller (6,199,168).

As to claims 21-22, 44-45, and 66-67, the arguments above for claims 1, 24, and 47 apply. However, Mills and SDA do not explicitly disclose the expansion slot is configured to accept a rechargeable battery. Miller teaches expansion card having slot for receiving rechargeable battery (Fig. 1 and col. 2 lines 12-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement slot configured to accept rechargeable battery as taught by Miller in the system of Mills and SDA so that the handheld computer is not required to supply power to the elements on the expansion card (col. 1 lines 31-36).

11. Claims 23, 46 and 68, are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al. (6,353,870) (hereinafter Mills) in view of “Socket to Support World’s Smallest Plug-in Card for Mobile Connectivity” (SD Card Association – Press Room, June 26, 2000) (hereinafter SDA), and further in view of Harari et al. (6,266,724).

As to claims 23, 46, and 68, the arguments above for claims 1, 24, and 47 apply. However, Mills and SDA do not explicitly disclose a second expansion slot coupled to the SDIO module, the second expansion slot configured to selectively couple to at least one of a SD card and a MMC. Harari teaches expansion module having a plurality of slots for receiving cards (at least col. 4 lines 59-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement a second expansion slot as taught by Harari for receiving SD/MMC cards in the system of Mills and SDA to extend storage space (col. 4 lines 18-21 and col. 10 lines 40-50).

Response to Arguments

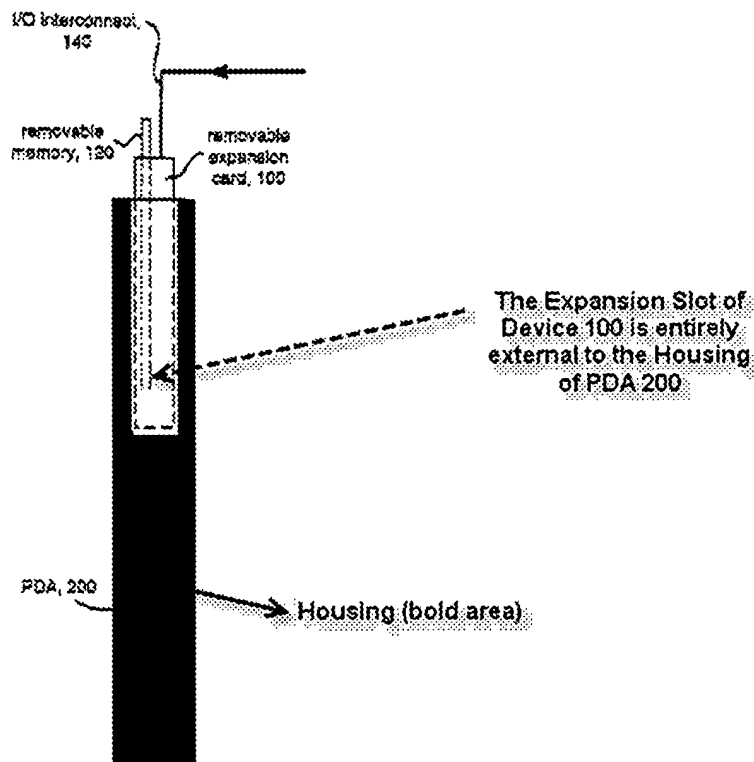
12. Applicant's arguments filed 04-14-06 have been fully considered but they are not persuasive:

1) Regarding Applicant's arguments of the 35 USC § 112 rejection in the previous office action, note the explanation in the USC § 112 rejection above.

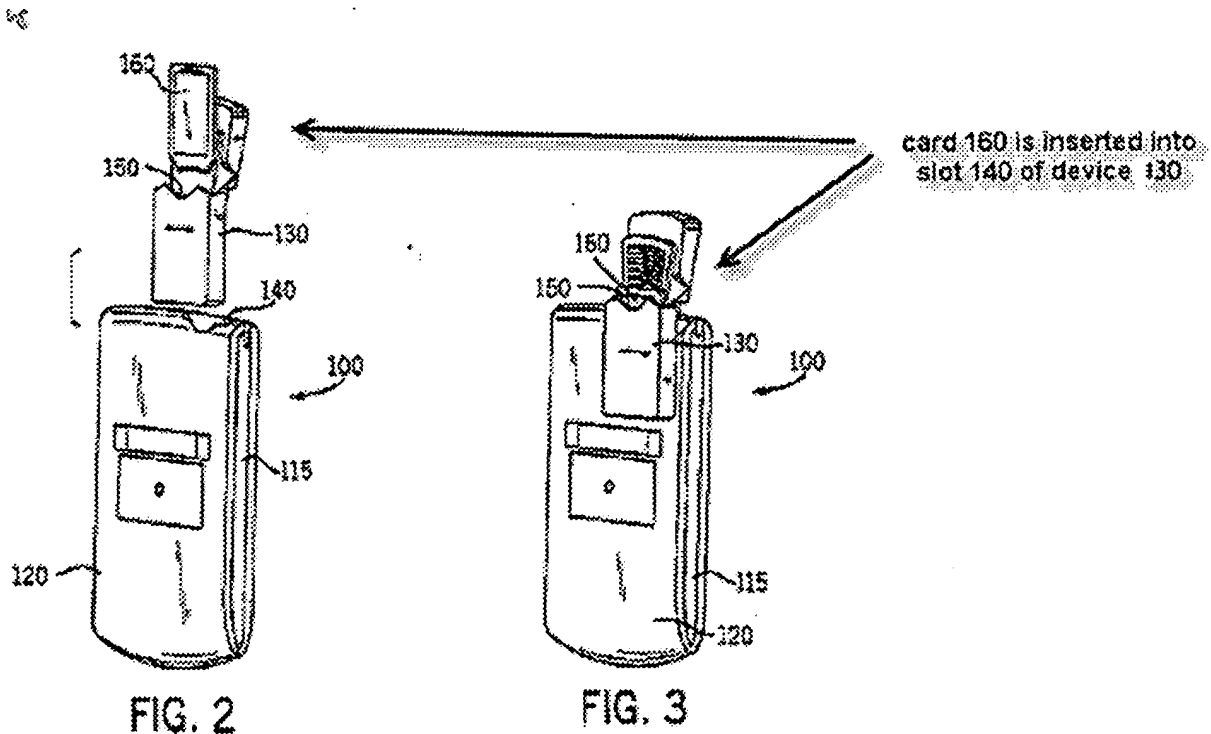
2) Regarding Applicant's arguments of claims 1 and 24 that Mills et al. does not disclose “*the expansion slot is entirely external to the periphery of the handheld computer*”, as addressed clearly in the previous office action, the expansion device 100 can be *coupled to* and

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removed from PDA 200 from the outside of the PDA (the housing), without having to open up the inside of the housing, thus the expansion slot of the expansion device 100 is entirely external to the periphery (housing) of the PDA. For example, look at Fig. 8 of Mills et al.:



Again, it is noted that Applicant discloses a **similar structure** as shown in Applicant's Drawings and Specification: a user of handheld computer 110 couples accessory device 130 to slot 140 in housing 120 of handheld computer 100 by sliding the SDIO card connector into slot 140; the device 130 having a slot 150 wherein a card 160 can be coupled into the slot (e.g. Figs. 2-3 and paragraphs [0018-0019]):



Thus, the Examiner sees no substantial difference of what Applicant regards as *"the expansion slot is entirely external to the periphery of the handheld computer"* between Applicant's and Mills et al.'s disclosures. If Applicant still believes that Applicant's *expansion slot is entirely external to the periphery of the handheld computer* is different than that of Mills et al., Applicant is respectfully requested to point out the difference in Applicant's Drawings.

3) The Examiner disagrees with Applicant's argument of claim 24 that "Mills et al., alone or in any proper combination with SDA, fails to teach or suggest an expansion slot..., the expansion slot and the slot in the housing both being sized to accept and electronically couple with SD cards", because SDA clearly teaches the slot accepts SDIO

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cards, SD memory cards and MultiMedia cards (page 1 of SDA and as addressed in the rejection above).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trisha Vu whose telephone number is 571-272-3643. The examiner can normally be reached on Mon-Thur and alternate Fri 8:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Trisha Vu
Examiner
Art Unit 2112

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REHANA PERVEEN
SUPERVISORY PATENT EXAMINER
7/6/06